

REMARKS

Claims 1 through 20 are pending in this application; claims 2 and 6 are amended and claims 8 through 20 are newly presented.

Drawings

In paragraph 1 of the Office action, the Examiner objected to the drawings for not including inspection object 12 and reference model 11 which are described in the specification on page 2 at line 3 and on page 2 at line 7, respectively. A Replacement Sheet corrected to show these reference numerals accompanies this Amendment. The Examiner's Acknowledgment is requested.

Claim Rejection Under 35 U.S.C. §102

In paragraph 3 of the Office action, the Examiner rejected claims 1 through 3 and 7 under 35 U.S.C. §102 as alleged anticipated by Longest Jr. *et al.*, U.S. Patent No. 5,305,392. Applicant respectfully traverses this rejection for the following reasons.

In support of the rejection, the Examiner asserted that Longest '392,

“discloses a method for inspecting inferiority in shape of an object ... and judging whether inferiority in shape of the inspection object exists, based upon the results of the grayscale comparison.” Examiner's Comments, Paper No. 8, pages 2 and 3.

First, the Examiner's understanding of Longest '392 is flawed. To paraphrase the Board of Patent Appeals and Interferences, how does the Examiner understand Longest '392 to judge either “inferiority in shape” or to judge “inferiority in shape of the inspection object” when Longest '392

does not use these nouns? A thorough reading of Longest '392 establishes that this reference is concerned wholly with "the inspection of the lanes of a printed web," and is unconcerned with either shape or objects. Accordingly, absent the inability of this reference to teach these features of Applicant's rejected claims 1 through 3 and 7, there is no anticipation under 35 U.S.C. §102(b). Withdrawal of this rejection is respectfully requested.

Second, the Examiner has asserted that Longest '392 judges:

"Whether inferiority in shape of the inspection object exists, based on the result of the grayscale comparison", Examiner's Comments, page 3, referring to column 5, lines 57-59 and column 7, lines 29-33.

The Examiner's citation of these passages of Longest '392 illustrates that the teachings of Longest '392 are devoid of any determination of "inferiority in shape" and any reference to any "shape of" any "object"; instead, these passages contemplate the jitter desensitized "template" and a comparison of "incoming images" of the printed web. Contrary to the Examiner's assertion, Longest '392 makes no determination of either "shape" or "inferiority in shape". In view of these deficiencies, no anticipation exists. Withdrawal of this rejection is therefore required.

Third, in view of the foregoing noted deficiencies, the Office action is incomplete and fails to comply with the requirements set forth in 37 CFR §1.104(a)-(c). In response, the Examiner's request to complete the Office action by:

- Identifying "the particular part relied on" in the Office action, of Longest '392, to teach Applicant's "inspecting inferiority in shape".
- Identifying "the particular part relied on" in the Office action, of Longest '392 to teach Applicant's judging of "whether inferiority in shape of the inspection object exists."

Applicant notes that Longest '392 is concerned with the maintenance of alignment between jitter desensitized templates and pixel values of images of a moving web, as opposed to Applicant's inspection for inferiority in shape, by reliance upon a statistical relationship illustrated in Fig. 4B, between each pixel. As indicated by that statistical relationship, only a degree of alignment may be determined because statistical relationship 70 provides ambiguous values once mis-alignment occurs. As explained by Longest '392 in column 7, beginning with line 55, statistical representation 70 "includes the minimum and maximum, the mean and standard deviation from the mean of the grayscale values present for each pixel" The process described by Longest '392 inherently provides ambiguous, and duplicate identical values for both negative, and positive increments of misalignment along the X-coordinate axis. This intrinsically defeats the ability of Longest '392 to provide a technique for determining inferiority in shape of an object.

Fourth, the Examiner's attention is invited to the fact that the *International Search Report* labeled the Longest U.S. '392 as a "document defining the general state of the art which is not considered to be of particular relevance". Is the Examiner's reading of this reference in conformance with the International Search Report?

Claim Rejection Under 35 U.S.C. §103

In paragraph 5 of the Office action, the Examiner rejected claim 4 under 35 U.S.C. §103 as alleged rendered obvious, and unpatentable, over the Examiner's proposed combination of Longest Jr. *et al.* '392 in view of Shisido *et al.*, U.S. Patent No. 6,087,673.

Applicant respectfully traverses rejection for the following reasons.

Shisido '673 is expressly concerned with "position alignment" and the occurrence of "mismatch between two patterns".

First, there is no basis for making the proposed modification of the primary reference with Shisido '673 suggested by the Examiner. Nowhere does Shisido '673 explain how, in the excerpt appearing in column 9, lines 15-23 relied upon by the Examiner, the potential of any light emitting devices in the primary reference might be increased; strictly speaking, the primary reference makes absolutely no disclosure of any light emitting devices. Moreover, this teaching by the secondary reference does nothing to address pixel noise, except to suggest a close proximity of the analog-to-digital converter 39 to the semiconductor 35, in order to prevent a mixture of noises", while the primary reference expressly teaches a statistical representation 70 to provide a "jitter desensitized template." In essence, even if the secondary reference provided a basis for modifying the primary reference, the secondary reference does nothing to improve upon the performance of the primary reference, and in all events, would probably impermissibly prevent the primary reference from being practiced in its intended mode of operation. Even ignoring these deficiencies in the Examiner's proposed combination, the secondary reference teaches nothing about Applicant's functional relation between brightness of a pixel and a position value on the boundary line of the inspection object. As previously explained, the intrinsic ambiguity of the statistical representation 70 of the primary reference prevents reliance upon this functional relation; in short, brightness in the Examiner's proposed combination indicates nothing except misalignment, and is unreliable for determination of Applicant's "position value on the boundary line." Consequently, withdrawal of this rejection is required.

Newly Presented Claims 8-20

Newly presented claim 8, dependent upon parent claim 1, defines the unambiguity in the relative positions determined between the portions, a feature wholly lacking in exemplars of the art such as Longest '392.

Independent claim 9, together with claims 10 through 15 depending thereon, define Applicant's process in terms of mutual correspondence between the images, and the ability to determine the location of an edge, a feature for which Longest '392 is unsuitable.

Newly presented independent claim 16, together with claims 17 through 20 depending thereon, alternatively define Applicant's process in terms of the comparison of the grayscale values, and the unidirectional variation of the range of values, a feature wholly absent from the art of record.

These newly presented claims 8 through 20 are deemed to be patentably distinguishable and allowable over the prior art.

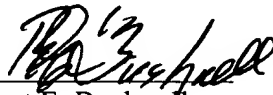
Allowable Subject Matter

In paragraph 6 of the Office action, claims 5 and 6 are objected to for their dependency upon a rejected base claim, but the Examiner stated that these claims would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

No fee is incurred by this Amendment.

In view of the above, it is submitted that the claims of this application are in condition for allowance, and early issuance thereof is solicited. Should any questions remain unresolved, the Examiner is requested to telephone Applicant's attorney.

Respectfully submitted,



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